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## "THE LAND OF FLOWERS."

Bee-Keeping Thoughts, Observations and Experiences in South Florida.

BY H. E. HILL.

No State in all this great "land of the free and home of the brave" is so conspicuously defined upon the map as that jet which extends out into the sea at its southeast extremity,

of her verdant shores are bathed in tropical seas. A remarkable feature of its formation is a high ridge that, excepting an occasional inlet through which the ocean tides ebb and flow, traverses nearly the entire length of the east coast, dividing the ocean from the mainland, and thus forming beautiful lagoons or tidal rivers, varying in width from  $\frac{1}{2}$  to 6 miles, which are navigable for ships of light draught. The several divisions thus formed are known as the North, Matanzas, Halifax, Hillsborough and Indian rivers; Mosquito lagoon, Hobe sound, Lake Worth, and Biscayne bay. With these, numerous rivers and creeks, rising in the interior, mingle their waters, instead of emptying directly into the ocean, and all combine to form ideal water-courses for the transportation of bees in practicing the migratory plan.

Bee-keepers are located all along their banks; many of them men of experience who have achieved success, though little or nothing is known of them by the world at large.



called "Florida." Its magnitude perhaps is not realized by one in fifty who have casually observed its geographical peculiarity yet have never traveled its railways, lakes and rivers.

As if determined to bear the Stars and Stripes beyond the domain of King Frost, she stretches forth independently and alone beneath the warmth of a winter sun until 1,146 miles

owing to a prevalent degree of modesty which (as yet) has not found its way west of the Rockies. There are a few whose experiences are more freely imparted, who are both practical and scientific in the art of bee-keeping, and are so regarded, not alone in Florida, but throughout beedom. Chief of these, I believe, is Mr. W. S. Hart, father of modern bee-culture in

Florida. Mr. Hart is also proprietor of the Bellevue orange groves, and has for some time held a high official position in the Florida Horticultural Society. His characteristic enterprise is in evidence in every department of both fruit and honey branches of his business as well as elsewhere in Volusia county, of which he is a public-spirited and prosperous citizen.

The large and commodious packing-house in which the crops of oranges from the Bellevue groves are prepared for shipment is provided with an ingeniously devised arrangement which automatically grades the sizes without injury to the fruit, and greatly facilitates the handling of large crops. The honey-house is one of the largest, and is in appointment the most perfect that I have seen anywhere. The extracting-room is upon the second floor, and is reached by an incline, after which the power of gravitation is utilized to perform the work entirely from the time the honey leaves the extractor until it is barreled for market. When necessary the honey is turned into the solar evaporating-room on its descent, and the desired specific gravity—which is ascertained by hydrometer test—is obtained by regulating the incline of the evaporating-pans.

Mr. Hart's uniformly high averages, resulting from his skill and thorough methods, are in a measure responsible for the present over-stocked condition of the range. Bee-keepers in and adjacent to Mr. Hart's range, are Messrs. Mitchell, Whitaker, Barber, Wilkinson, Sheldon, Galbreath, Turner, Abbott, Moore, et al. This locality, in 1894, shipped about 200 tons of honey. The nectar-secretion along the Halifax river, is gathered by the apiaries of Messrs. Case, Robinson, Johnson, Jones, and other small bee-keepers; while Messrs. Marsh, Clinton, and Hewett, care for the product in the vicinity of Oak Hill, at the head of the Indian river. Mr. King, located at Indian River Narrows, has extensive aparian interests, with some opposition in the way of smaller yards than his own, in the field; and indeed they are strewn the entire length of this picturesque little sea—over 100 miles long—which teems with numerous varieties of fish and oysters.

At its southern terminus—about 260 miles south of Jacksonville—the Indian river is intercepted by the St. Lucie, one of the most charming of the many beautiful rivers for which Florida is famed. Here is the home of Mr. O. O. Poppleton, who needs no introduction to readers of apicultural literature in the English language. Overlooking the river, nestled amid the foliage of tropical trees, vines and shrubs—some of which were brought from the island of Cuba by Mr. Poppleton upon his return from that land of insurrections, several years ago—is his cozy little home; to which picture a luxuriant growth of pineapples and rows of neatly-painted white hives, beneath a sunlit sky, form a harmonious background, and the scene is one to remind the beholder of his proximity to the torrid zone. Mr. Poppleton has also an out-apriary, and, like the majority of Florida bee-keepers, produces extracted honey exclusively.

Mr. Benjamin Parks, on the St. Lucie, is another progressive and successful keeper of bees, who believes in supplying the home market before shipping to the cities. The apiaries of Messrs. Simmons, Fultz, Winter, Hankins and the writer, all assist in gathering the honey crops of this vicinity.

An accompanying engraving will give a glimpse of our apiary near Spruce Bluff, about six miles north of Stuart. Each hive is provided with a combined honey-board and feeder, having cleats one inch square on top, upon which the lid rests, giving thorough ventilation. A groove cut part way across the end cleat, with a shorter one to catch the other end, holds a framed record-plate upon each honey-board, so it is easily drawn out and replaced when making notes. The apiary is shaded by arbors built of poles to which palm leaves are nailed; each arbor covering two rows of hives. This feature is perhaps appreciated equally by the bees and their keeper during the heated term.

The view of our New Smyrna apiary was taken shortly after the unprecedented freeze of 1894, when all our resources were thereby temporarily cut down, which accounts for the absence of upper stories and supers.

Brevard Co., Fla.

[Concluded next week.]



### Introducing Queens—One Way to Do It.

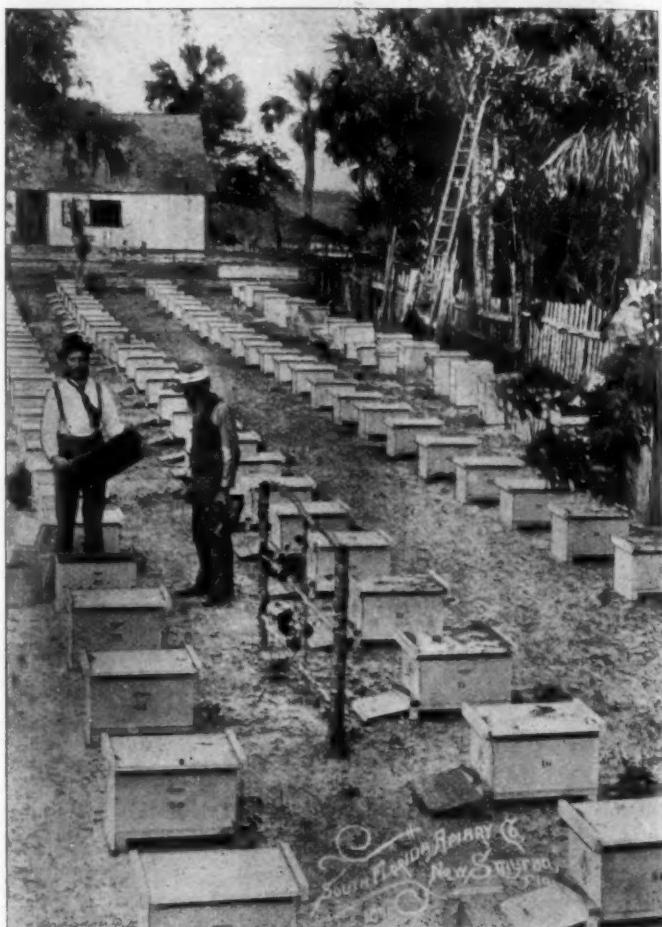
BY J. E. POND.

I have received several letters of late asking my method of introducing queens; as this is a matter that may be of general interest, I will briefly state the method I have successfully used for years, that is, with hardly the loss of one per cent.

On the morning of a clear day, when the bees are flying

freely, I remove the old queen, placing the one I propose to introduce in the top of the hive caged as ordinarily sent by mail, and there leave the cage so that the bees can have access to it till the time to let her out. In the evening of the same day after the bees have all returned from the field, and are quietly settled at home, I blow a little smoke in the entrance of the hive, wait a few moments till the bees have filled themselves with honey, then remove the cage and queen from the top of the hive, open the cage, and allow the queen to run in at the entrance, as though she had always had her home there.

The above method is simple and easy of accomplishment, and with myself, as I have stated, is a thorough success, so much so that I never use any other when honey is being gathered.



ered. It is a saving of time also to the bees, as the new queen is sure to be laying freely within a few hours after introduction.

One thing I will mention, tho, I do not open a hive for three or four days, at least after, such introduction, for fear that by so doing the new queen might be injured by being "balled."

If any who adopt the method desire to know at an earlier date whether or not a queen is accepted, they can by the use of a "drone-trap" ascertain at once, for if rejected, the queen will be found in the "trap," which can be examined at any time.

Any one who can open a cage and let loose a queen, can introduce her as above, as it does not require any special skill or experience.

Bristol Co., Mass.

### Purity of Italian Queens and Drones.

BY JOHN M'ARTHUR.

[Continued from page 324.]

Another point toucht upon by the Doctor, is "the importation of queens from Italy." The results are "a conglomeration of colors, from black to mottled, with bright yellow, both queens and drones. Because of this, variation is no sign of

impurity if their coming from Italy will make them so." Now this is just the point. Is there any pure stock imported from Italy? I very much doubt if any comes from there that will duplicate themselves in queens, workers, and drones uniformly markt. They are like ourselves, only emigrants, or the offspring of emigrants. It is easy accounting for their appearance in Liguria, that province lying on the bosom of the Mediterranean. They could have been easily imported or by migration found their way to the shores of Liguria. Ample proof can be given of a swarm lodging in the bow of a vessel trading on Lake Erie many miles from the Canadian shore, and taken to the American side. The captain is now on one of our ferry-boats, and related the circumstance to me two years ago.

They are only of a recent date in Liguria, compared with the Egyptian, Syrian or Cyprian races. They were domesticated by the Syrians and Babylonians before the more northern portions of Europe had emerged out of chaos; long before that period in which our ancestors as described by Julius Caesar wore naked and smeared over with paint, or merely clothed with the skins of wild beasts, living in huts and worshipping the mistletoe. No doubt the Syrian race is the original type from which other forms have been derived. By careful selection and judicious crossing, not forgetting isolation, they are being brought back to the original type.

The questioner asks the Doctor the reason for this discrepancy in color, especially with queens and drones. He says: "Now is it impurity, degeneration, or what?" I have no hesitation in saying it is impurity, because two of a kind mated together, showing the same markings, and from a line of ancestors showing the same fixt characteristics according to the law of breeding, ought to produce something similar, which is not the case with our imported queens and queens reared anywhere except where there is perfect isolation.

Having disposed of Dr. J. P. H. Brown, I now turn my attention to Dr. C. C. Miller, who says to his questioner, on pages 629 and 630 of the Bee Journal for 1896:

"Drones vary very much in appearance, and there are no markings of the drones that would be taken as a test of pure Italians; the workers are the ones to go by; the test of pure Italians being the three yellow bands on all the workers."

This seems to me strange reasoning, and contrary to the physiological laws, or the laws of breeding. How ridiculous the thought of any breeder of thoroughbred stock describing with accuracy the progeny, and cannot with the same exactness describe sire and dam. If such were the case, there would be no constancy or fixedness of characteristics, hence a heterogeneous mass of colors, shapes, etc. There must be some fixt law in the mating of queens as in other creatures, whereby the worker progeny, as described by the Doctor, are all alike in markings. It does not arise from the mere fact of the queen being yellow. There is no casual or haphazard blending of the parts or qualities of two parents. Then when one parent takes the role of two (as far as her drone progeny is concerned), as does the queen, it very much simplifies matters, making doubly sure the fixedness of every characteristic, especially color, because it is a known law among breeders that the male and female contribute one-half. The male parent chiefly determines the external character, the general appearance—in fact, the outward structure and locomotive powers of the offspring—as the frame-work or bones and muscles, the organs of sense, and skin; while the female parent chiefly determines the internal structure, and the general quality, consisting of the vital organs, i.e., heart, lungs, glands, and digestive organs, and giving tone and character to the vital functions, secretion, nutrition and growth. Not that the male is without influence on the internal, or the female without influence on the external—the law holds only within certain restrictions, and these form, as it were, a secondary law, one of limitations; and, furthermore, when copulation takes place, unlike most other creatures, discharges only one polar body, which is female, and therefore influences only the worker progeny.

Now this should make it plain that the drone has very much to do with the markings and outward structure of his progeny, and should make us more careful in the selection of our breeding stock.

This brings us to a third law, known to the breeder as atavism or ancestral influence. The lesson taught by this law is very plain; it shows the importance of seeking thoroughbred or well bred stock, whose descendants are from a line of ancestors in which for many generations the desirable forms, qualities, and characteristics have been uniformly shown. Hence the money value of good pedigree.

Before closing this rather lengthy epistle, a few illustrations may help to show some of the errors that have been made by many writers in describing what constitutes the

proper marking of our bees. Take the entomological world—our bumble-bees. How uniform in markings, male and female alike. In any of our varieties of wasps we find the same accuracy in markings—neuters, male and female moths and butterflies, the same order in markings prevail.

In the ornithological world we find the same order prevailing; the males as a rule having the most gaudy furnishings. Look at our pigeons and their varieties, male and female alike; our poultry the same, and why not the same uniformity in markings of our bees? I have no doubt these three doctors have closely studied the anatomy of man, and can diagnose with ease the ills that flesh are heir to; but their diagnosis of what constitutes a pure Italian queen or drone falls short of the mark, according to Nature's laws, which the writer has feebly tried to point out. I cannot lay the charge of ignorance to the writers, but they certainly had not consulted the physiological laws, or the laws of breeding, or they would have seen their error, and made their replies somewhat different.

The amount of error that has been published of late on this question, by learned, thinking men, has been rather appalling, and the sooner we come to a decision on the question the better it will be for all concerned in the welfare of apiculture; and let us ever remember that all Nature's operations are conducted by fixt laws, whether we be able fully to discover them or not; the same causes always producing the same results. Being illiterate, I prefer to sit and be taught, but when an extended experience and close observation reveals facts, that to-day are rejected and lookt upon by so many—shall I say thinking bee-keepers?—as mere idle talk, I shall hold to my former opinions, with convictions more deeply imprest that the views presented are correct, and I am willing and able to bear all the criticism that will be showered about my ears for advancing what I know to be facts entirely based on Nature's laws.



### Mothod of Securing Worker-Comb.

BY G. M. DOOLITTLE.

QUESTION.—As I have quite a quantity of combs which are only partly built to fill the frames, which I wish the bees to complete next summer, having as little drone-comb in them as possible, I wish you would explain a little further in regard to how you work for the building of worker-comb, as given on page 891 of Gleanings for 1896. You say there, "And by taking them (the combs) out in such a way as to keep the bees desiring only worker-brood," etc. What I wish is to understand just how this is done.

ANSWER.—When any colony is so weak that it has no desire to swarm (during or preceding the swarming season or honey-flow), such a colony will invariably build worker-comb (so that worker-brood may be reared till the colony comes into a prosperous condition), providing they do not have sufficient comb already built. Taking advantage of this fact, I use all colonies which are too weak to store honey to advantage at the beginning of the honey-flow, treating them thus:

Their combs are generally all taken from them; but sometimes I leave one comb partially filled with brood, and always one of honey, giving the combs of brood to other colonies so that they will be still stronger for the honey-harvest. I now put in one, two, and sometimes three frames with starters in them, or frames which are partly filled with comb (as our questioner says his are), just according to the size of the little colony, after I have taken their combs away. In all cases I see that each one has a frame well-filled with honey; for should storms or cloudy, windy weather come on at this time they would build no comb of any amount, and might starve; while with the frame of honey they will go right on converting the honey into comb, storm or no storm. If the right number of frames are given to suit the size of the little colony, they will fill them quickly, especially when honey is coming in from the fields, and each comb will be filled with brood as fast as built. If not too strong they will generally build comb of the worker size of cell till the brood begins to hatch from the eggs first laid in the newly-built combs by the queen; but as soon as many bees hatch they will change to the drone size of cells; or if the little colony is quite strong in bees they may change the size of cells sooner than this. Hence, as soon as the first frames I gave them are filled with comb, look to see about how many bees they have; and if they are still well stockt with bees, or are in a shape where I may expect that they may change the size of cell before they reach the bottoms of the frames with worker-comb (should I spread those apart which they already have and insert other empty or partially filled frames), I take out the combs they

have already built, and thus put them in the same condition they were when I first started. But they will not build combs quite as freely this time as they did before, unless there can be some young bees hatching; so, if I can conveniently, I give them a comb containing mostly honey and a little brood (if they have such a comb it is left with them, which is more often the case than otherwise) from some other colony, when they are ready to work the same as before.

In this way a colony can be kept building worker-comb all summer, or till the bees are nearly used up from old age, the colony becoming so small as to be unable to build comb to any advantage, under any circumstances. But if just the right amount of brood is left, or given them, so that they stay in about the same condition, they will build worker-comb all summer by the apiarist supplying honey or feed when none is coming from the fields. If not so strong but that I think they will still continue to build worker-comb, instead of taking the brood away, I spread the frames of combs (now built) apart, and insert one or more empty frames between, when these will generally be filled with worker-comb before enough young bees hatch for them to change the size of cell. But this is always to be kept in mind, whenever you find them building drone-comb: The combs they then have, all except the one mostly filled with honey, are to be taken away so that they may feel their need of worker-brood again, when they will build cells of the worker size once more.

I have had hundreds of frames built full of worker-comb in this way, hundreds completed, as our questioner proposes to do, and hundreds "patcht" where I had cut out small pieces of drone-comb, which had gotten in, in one way or another. If any one wishes a mutilated comb to be fixt so it will be a surprise to him, just give it to one of these little colonies and see what nice work they can do at "patching" with all worker-comb.—Gleanings.



### Will the Good Years Come Again?

BY S. A. DEACON.

Among the 22 replies given to the above question in the American Bee Journal of Dec. 24, 1896, by the leading apiarists, I fail to see one which treats the subject from anything approaching a scientific point of view. Most of the answers would seem to have been given in a random, haphazard, happy-go-lucky sort of way. One curtly says: "If the conditions are the same, why not?" Another opines that, "All depends on summer drouths and winter snows." Precisely! But in no case is the great desideratum of a foreknowledge of coming seasons mentioned, or any hints given as to how such knowledge may be obtained. Yet I have reason to believe that it can be obtained; that thoroughly reliable season prognostications, or forecasts, can be formulated; the outcome of a careful and patient scrutinizing of your meteorological records as far back as they go.

Three of the respondents came, tho all unconsciously, very near to suggesting some such method of ascertaining the nature of the seasons in advance; they, at least, indirectly affirmed their belief in the theory of weather cycles. Eugene Secor, for instance, answers: "The thing that hath been, it is that which shall be." Mrs. L. Harrison, also drawing upon scripture, laconically replies, "What has been will be again." A. F. Brown replies, "History repeats itself, as the sun rises and sets." To all of which I again, and very emphatically, observe—precisely!

These three respondents have given the clue; it only remains for some of the studiously inclined members of our fraternity—perhaps Dr. Miller, Dr. Brown, Hon. Eugere Secor, or the Rev. Mr. Mahin—to devote a little time to ascertaining, from a careful study of the rainfall and other meteorological records of past years, with what degree of regularity "the thing that hath been" was, and *will be again*; and whether, haply, repetitions in meteorological history are, equally with that of human and national events, as regular as the rising and setting of the sun. In short, they must go cycle hunting; and if they should meet with anything approximating the measure of success in that fascinating pursuit which has rewarded the pains and researches of Mr. D. E. Hutchins, chief conservator of forests for this colony, their labors will by no means have been in vain.

Altho our records only go back to 1841, they have sufficed for the establishing, and that most incontrovertibly, the fact that seasons of drouth and of abnormally abundant rains possess an unfailing periodicity. Nor have the untold benefits derivable from the prognostications, or forecasts, we are now enabled to make, been confined to this colony alone; for, from a few simple meteorological observations—in which the barograph played an important part—made near Cape Town,

Mr. Hutchins was enabled to predict and forewarn the Government of India of the failure of the monsoon rains there this year, thus affording them time to make preparations for coping with that most awful of all calamities, and which, alas! is now prevailing—a famine amongst the teeming native population—calculated at three hundred million souls!

The fact of the climatic conditions of two countries separated from each other by a vast sea, and *nearly 4,000 miles apart*, being governed or influenced by one factor, may serve as a hint to prospective cycle hunters on your side, not to confine their attention too closely to local surroundings, or to prominent local topographical features, though these may, of course, influence in a greater or less measure the operations of the main factor, and which may have its origin some thousands of miles away. The vagaries of the Gulf Stream should (by the aid of Lieut. Maury's published researches) be studied in order to ascertain what amount of regularity there is in its irregularities; for to irregularities—regularly recurring—in the southeast trade winds is due the failure of the monsoon and the deplorable state of affairs obtaining in India to-day.

It is just possible, too, that great climatic variations on the continent of North America may be not totally disconnected—may, indeed, be possibly closely connected—with the great and regular meteorological disturbances obtaining every ten years (or is their storm cycle one of eleven years? I do not remember just now) on the sister continent of South America, when prolonged and severe drouth carries off millions of cattle and sheep, millions more being destroyed by the heavy floods which regularly supervene. This fixt South American cycle may form valuable material for the North American cycle hunter to work on, considering the recent discovery, that absence of normal energy in the regular southeast summer winds (and, as shown by the barograph, their nature having become cyclonic) at the Cape of Good Hope, resulted in, or presaged, the failure of the crops on a continent 4,000 miles away!

You may somewhat despondently say that your climate, especially in the eastern States, is too irregular and altogether too variable, defying all forecasts and calculations. So thought we, too, until Mr. Hutchins appeared on the scene and reduced the confused and perplexing data of meteorological records to order, and enabled every farmer to have the oracle at his elbow. Go ye and do likewise, oblivious of the fact that cycle hunting has of late years fallen somewhat into discredit, owing to the poor results of much labor on the Sun Spot cycle in your hemisphere; for new searchers, with a knowledge of the incalculably valuable results of Mr. Hutchins' labors before them may, likely as not, hap on something to aid a solution of the problem which their predecessors in the field of inquiry have overlooked.

As a still further incentive I may mention that Mr. H. C. Russell, Government Astronomer of New South Wales, has, after much labor and research, succeeded in establishing a weather cycle for Australia. So we see that markt climatic changes can now with certainty be predicted in South Africa, South America, Australia and India; and the discovery of regular periodicity in such markt variations being of so recent origin should, I think, greatly encourage the desire to work out a dependable cycle, or cycles, for your part of the world, too. I would suggest that a commission be appointed, including among its members the four gentlemen above named, adding to the list such men as the Hon. R. L. Taylor and Prof. Cook. Let them carefully examine and collate all your past meteorological records, and see how markt changes in other parts of the world have synchronized hitherto with similar atmospheric variations in the States. If they examine as they needs must do, the shipping records, they will doubtless find a regularity in the recurrence of periods of an abnormal number of casualties coinciding, in all likelihood, with abnormally wet seasons inland. Scientific men are not often smart men of business, but see how Mr. Hutchins once turned his ability to see into the future to practical account, as appears in his forecast for 1897. He says:

"We shall have deluges of rain. Violent storms will rage over the whole of South Africa. Marine insurance shares may fall, as happened at the last storm cycle year, when I chanced to hold some of these shares, and seeing what was coming I sold them out and saved three shillings per share!"

As a guide to prospective cycle hunters, let me show how Mr. Hutchins set to work. By examining the rainfall records he found the average fall at the Royal Observatory, near Cape Town, to be 25 inches a year; but he also noticed that certain years showed a great excess, thus: 1850—33 inches; 1859—36 inches; 1869—32 inches; 1878—41 inches; and 1888—36 inches. At first these periods seemed too irregular to found a cycle on, till a little thought and closer observation showed them to be *regularly* irregular, these years of heavy

rains occurring every 9 and 10 years alternately. Here was a valuable discovery! Our farmers, who have been struggling through three or four years of severe drouth, are now assured of an exceptionally wet season this year, such as they have not had since 1888, and they are rejoicing and planning in sure anticipation thereof accordingly. These unusually heavy rains will commence in June—our winter—two or three fairly good years will follow; but then, alas! we have also the grim satisfaction of knowing—and it is perhaps one of those cases where blissful ignorance would be preferable to wisdom—that the three years immediately preceding our next cycle year—1905—when the influence of the last storm cycle year has past, will be seasons of bitter drouth. Still, tho' the knowledge may not be palatable, we are at least forewarned, and can order our affairs accordingly, and lay up not for the proverbial wet, but for the coming *dry day*. Mr. Hutchins predicted an unusually wet winter for 1897, with a few good years to follow, as far back as 1887! How easily and reliably could he not have answered the "Question-Box," interrogatory had it been propounded here!

I said just now, "Until the next cycle year—1905." Among such as have been sufficiently interested to follow me thus far, there are some who may perhaps wish to correct me; for Hutchins' storm cycle, it will be observed, is not due until 1907. True, but there have fortunately been other cycle hunters in the field, and only one very wet year out of 9 or 10 "isn't good enough;" so, as the following table shows, we have Meldrum's cycle, giving us an exceptionally rainy season every 12½ years. Further, we've the Sun Spot cycle, with a periodicity of something under 12 years. This table should prove instructive to those who may contemplate taking an active interest in the subject:

Rainfall at Ceres, South Africa.		
1878....	53 in.—Storm Cycle.	1888 .... 62½ in.—Storm Cycle.
1879....	29½	1889.... 37½
1880....	30—Meldrum's Cycle.	1890.... 32
1881....	32½	1891.... 31½
1882....	32	1892.... 56—Meldrum's Cycle.
1883....	44—Sun Spot Cycle.	1893.... 46
1884....	28	1894.... 37
1885....	41	1895.... 57½—Sun Spot Cycle.
1886....	38½	1896.... 25
1887....	35½	

Meldrum's cycle would seem to have been a bit out of gear in 1880, unless it's a misprint. Nor did the abnormally heavy rainfall of 1895 extend, as this year's will do, all over the colony. Still, on the whole, the theory serves.

Now from this table it will be seen that Meldrum's next big rain year will be 1905, the Storm cycle's in 1907, and the Sun Spot's also in 1907—pretty well all of a heap, like Brown's cows! The result will be a series of splendid seasons, good harvests, cheap food, the milk streaming from the cows' udders, and the honey running out of the hive-entrances. Oh! but we shall have to pay for it—unless we pay Nature's debt in the interim; for, like a swarm of bees, these cycles have clustered together, and will go on together, separating only very gradually, for some time to come; this indicates long and severe drouths before their recurrence. Here again ignorance would have been bliss; and many would perhaps gladly say with Paddy, who, when in a storm anxiously inquired of the captain if he had an almanac on board, and being answered in the negative, despondently remarked, "Then, sure, we'll have to take the weather as it comes." But I suppose we must e'en take the good and the bad together, enjoying with becoming gratitude the one, and doing our best to be cheerful and resigned under the infliction of the other.

I cannot help thinking but that with comparatively little labor a dependable cycle, or series of cycles, could be formulated for California, and perhaps also for Texas (two of your great honey-producing districts seemingly). In the eastern States you have, I know, many local interferences or sub-factors to contend with, and to take into consideration, such as your big lakes and the gulf stream; but that there are fixed and immutable rules regulating your seasons *on the whole*, and regulating the seeming irregularities of that troublesome though beneficent gulf stream, there can be little doubt.

Scan the shipping records along your eastern coast to begin with, and see if there is not a periodicity in years of numerically great casualties, and then compare with your rainfall records, and see if these abnormal shipping casualty years do not synchronize with seasons of abundant rains. I remember to have read somewhere that increase in force and volume of the gulf stream is always accompanied by unusually stormy weather. So, then, if this increase occurs with any degree of regularity, Lieut. Maury's publish'd researches will probably afford the knowledge.

I have little doubt but that a dependable cycle for both sides of your continent can be formulated with a little labor

and care, when you will no longer need to propound such questions as the above, nor yet like Paddy, be forced to take the weather as it comes; you will at least be able preparedly to meet it.

But I fear I am growing tedious and taking up too much of your limited space. I wish success to any and all who may hereby be stimulated to embark on a cycle-searching tour, and predict for the whole of the United States a very wet summer this year.

South Africa.

P. S.—Between 1900 and 1905 we are to have a spell of drouth such as has not been experienced in the colony since 1844. So you see our X rays almanac tells just what is in store for us, years in advance.

S. A. D.

## CONVENTION PROCEEDINGS

### Report of the North American Convention Held at St. Joseph, Mo., Oct. 10-12, 1894.

REPORTED BY LOUIS R. LIGHTON.

(Continued from page 326.)

The following is an essay in full, as written by the Secretary, Frank Benton, only an outline of which he gave at the convention :

#### WHAT SHALL WE PLANT FOR HONEY?

One who travels over a few hundred miles of our country cannot but note the meager number of colonies of bees which help to add to the thrifty look of the homes of those who till the soil. He is forced to conclude that not one-tenth of the nectar produced is gathered. More than nine-tenths of it are secreted but to be evaporated, to be reabsorbed by the plants, or to be collected by wild bees and other insects. Why, then, should we consider planting for honey? The answer is simple. It is not often we can find one locality giving a continuous and abundant honey-flow from spring until fall, indeed such localities are very rare, and even if we find one which nearly or quite fulfills these conditions we may not be able to locate an apiary there. To bring the location we already have up to such a standard is what every one owning even a few colonies would be glad to do if at all practicable, and he is especially anxious to see his way clear to do this if he is the owner of a home and expecting to remain there permanently and engage in the cultivation of bees. He wishes, moreover, to make his honey-crop a more certain one—to remove as far as he can all possibility of having to depend upon mere luck in connection with his chosen occupation.

The solution of this question in its details must be a matter for each bee-keeper to work out for himself. But experiment and actual practice have indicated certain lines within which we may look for a measure of success in this direction, and certain others which will only lead to disappointment. My own experience of over a quarter of a century, as well as my observations among the bee-keepers of this country and of the more advanced nations of the Old World, lead me to the firm conviction that the systematic, advanced bee-cultivation of the future will, and must of necessity, be based largely upon the supplying of additional sources of pasture for our bees besides those now existing, or, in some instances, in place of these—must fill the gaps, and, in so far as is possible in any branch of agriculture, must replace uncertainty with certainty. I will merely indicate a few of the things we may plant and encourage others in planting with this object in view. From many of these we can hardly hope for great gain ourselves, but others—our children or our children's children—will bless us for the gift.

Just here there comes to my mind a very pretty little French poem which I do not remember to have seen translated. Some careless young fellows riding along see a white-haired octogenarian planting trees and deride him for it, asking, "car au nom des dieux, je vous prie, quelles fruits pouvez-vous en recueillir?" (for, in the name of the gods, I ask you, what fruits can you gather from them?) The old man, pointing to

trees laden with fruit, replied: "Because some one planted before me, I am able to eat of these fruits."

I shall start out with the proposition which I hardly think anyone will now dispute: That we know of no plant which, at the present prices of land and labor, we can possibly hope will return us, even under the most favorable circumstances, a crop of honey sufficient to repay its cultivation for honey alone. In other words, our honey-plant must be worth cultivating for other reasons besides its honey-producing qualities. Indeed I have always been surprised that any one should have seriously entertained what I am tempted to call the chimerical idea that any plant could be profitably cultivated for its honey alone. This excludes from my list many hundreds of plants which are good producers of honey but can yield us little or nothing beside, and though I may mention some of these as worthy of cultivation for ornament, in the main the honey they yield must be considered but a drop in the bucket.

Again, certain honey-yielding plants ordinarily grown on a small scale in gardens, may, under favorable conditions, be raised extensively, i.e., made main crops with profit in two directions. Such are of course only to be considered of some account to the apiarist when so grown. Having thus restricted the list through rejection of many plants, I will proceed to refer to certain available plants, more in the way of suggestion than with the idea, in the limited time at my command, of completeness.

In order to choose intelligently from such a list those plants or crops most likely to aid the bees in filling in their time to our profit, it will be necessary for each bee-keeper to make a most careful and thorough study of the honey-producing flora of his locality. He should know the gaps in his list of honey-yielders—the periods that are to be filled in, and select accordingly, due regard being also had to all other considerations, such as adaptability of the soil and climate to the crop, cost of cultivation, market for the resulting products, etc., including the permanent effect upon the fertility of the land used.

I will class the plants I shall mention under three general headings: 1st, Those cultivated primarily for the forage, fruit, or seed they yield, and secondarily for their honey return; 2nd, Those which are chiefly ornamental, but which also yield honey or pollen; and 3rd, Those which should be made the subject of experiment.

#### I. PLANTS FOR FORAGE, FRUIT, OR SEED, AND HONEY.

##### *Perennials:*—

Apple (including Crab Apple), Apricot, Almond, Banana, Blackberry, Cherry (incl. Improved Dwarf Rocky Mountain Cherry, *Prunus demissa*), Cranberry, Currant, Gooseberry, Grape, Juneberry or Serviceberry (*Amelanchier canadensis*), Nectarine, Medlar (*Mespilus*), Orange (incl. Hardy Orange), Peach, Pear, Plum, Persimmon, Quince, Raspberry, Strawberry.

Of the fruit trees and shrubs just named, the apple is one of the excellent producers of fine clear honey. It would surely be counted a great yielder if our bees were always in condition to take advantage of it. As it is, few get any surplus from it. Their bees merely build up on it. This is where good wintering and early spring stimulation come in play. There have been some writers—perhaps even some of them still insist on the same plan—who have said they wanted no brood in their hives before May. Even in Northern latitudes I prefer to have brood in January, so as to have young bees emerging in February and the months following. Then with good weather during fruit-bloom, the yield from apple, peach, and cherry, will more than replace the food consumed. The blossoms of the crab apple come rather in advance of the other apples and are much liked by the bees, while the improved cultivated varieties are a welcome addition to our fruits, and should be more generally planted.

Almonds (*Amygdalus communis*) can be grown wherever peaches thrive. The hardshell varieties are hardier than the soft-shelled or paper. A variety introduced from Russia is said to be quite hardy everywhere. Bees work as diligently on almond as on peach blossoms. On the shores of the Adriatic sea it is counted an important harvest.

The Banana, now coming into cultivation in the subtropical parts of our country, is a great honey-secreter, and its blossoms appear in succession during many months.

The Dwarf Rocky Mountain Cherry has been improved by cultivation and is not at all like our Eastern wild cherries, but similar to the sweet cultivated varieties. It is hardy in all situations and very productive. The trees are laden with blossoms in early spring to the great delight of the bees—and the bee-keeper!

The Juneberry or Serviceberry in some of its forms grows wild in nearly all parts of the Union, and is familiar no doubt

to most of you, as well, also, as the fact that its time of blossoming varies from February to May according to the locality and species or variety. It may not, however, be known that some of the State experiment stations have been testing the different sorts and have reported very favorably upon certain of them. The cultivated Juneberry derived from the Rocky Mountain variety or perhaps species (*Amelanchier alnifolia*) is really a meritorious fruit comparing very favorably with the huckleberry. The Improved Dwarf is probably from this western form. It is hardy everywhere and very productive. Besides its value for its fruit it is one of the most ornamental shrubs for a lawn, the white petals of the showy blossoms contrasting well with the dark green glossy leaves. It grows from suckers which are so easily transplanted that certain nurserymen are already offering them as cheaply as currant bushes.

Some discussion as to the quality as well as quantity of honey produced by the orange has taken place in aparian journals within a year or two. But there can be only one side to the subject, for the orange, in countries where it is for several weeks the exclusive forage-plant of the bees, yields an immense amount of exceedingly fine honey—a quality, in fact, which is to be rankt among the finest honeys of the world. Several years' experience in bee-keeping in such countries enables me to speak positively concerning this. Those portions of our country adapted to the growing of the orange can look with certainty upon increased honey-returns and an excellent quality, too, as the orange-groves are extended. Many of our Northern friends are not aware that at a small cost they may raise as an ornament and for its fruit the Hardy Orange (*Citrus trifoliata*). This tree produces the same fragrant white blossoms as the ordinary orange, and fruits quite similar in appearance. The latter are, however, too acid for use except as lemons to make a cooling drink, or for marmalade. The tree may be used as a hedge plant, being dense, thorny and dwarf, or, trimmed up, is of exceeding beauty on the lawn, the blossoms continuing to appear all summer. It has withstood a temperature of 18° below zero as far north as New York. It fruits freely in Maryland. The Japanese or Satsuma sweet orange, one of the mandarin class, is also half hardy, at least it has been raised as far north as North Carolina.

The Japanese persimmon (*Diospyros kaki*) deserves for its large and excellent fruits to be more frequently planted in the Gulf States and westward. Bee-keepers located there should set the good example, for all of the dozen or more varieties introduced, furnish a rich feast for the bees early in the season. The Italian species (*D. lotus*) is said to succeed well also in California. The native persimmon (*D. virginiana*), likewise a good honey-yielder, is not often found wild in the Northern States but will thrive almost anywhere. The fruits after sharp freezing are much relished by many—children especially. Selection and cultivation would improve them.

Blackberry and strawberry I have never thought of much importance as honey-yielders; perhaps if no other sources were available at the time, the bees would get an appreciable return from them.

The Cranberry (*Vaccinium macrocarpon*), is said to yield honey. I have never had an opportunity to verify this. The plant is closely related to others which are good producers.

The Raspberry is a very important honey-plant. I do not think it has received the attention it merits. Every one, of course, knows that nice raspberries generally find a ready market; also how easy it is to raise them. A few acres well cared for will furnish an important addition to the bee-keepers income. The red is said by some to yield more honey than the black. But I think this is because more reports have come from the East where the red is more abundant in the wild state than the black. In the Middle Section there are regions where the black is most frequent, and I think it yields equally as well as the red. But a careful comparative test would be necessary to decide this. The quality of raspberry honey is superb; it is clear like crystal, thick, and has a delicious, berrylike flavor. As the plant blossoms two or three weeks after apple and other fruit trees, the weather is likely to have become settled and the colonies are sure to be more populous—ready to take advantage of this incomparable feast, and all other honey-plants—even the famous clovers—are neglected for the modest, nodding raspberry, so rich in nectar.

(Continued next week.)

**The McEvoy Foul Brood Treatment** is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year —both for \$1.10.

# QUESTIONS AND ANSWERS

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

**Sweet Clover in an Orchard.**

Will sweet clover be injurious to an orchard? As it is such a vigorous grower, it has seemed to me that it might injure fruit trees by taking the moisture from them, like alfalfa.

OHIO.

**ANSWER.**—The same objection that holds against any growing crop in an orchard will hold against sweet clover. If kept cut down or fed down, it would be neither better nor worse than grass of the same growth.

**Against Adulteration—Perhaps too Crowded.**

1. I have never heard anything about stopping adulteration in New York State. When they get ready to do so, I will be ready to help with all I can do, if I have to work out nights to get funds to help put it down.

2. I have four colonies of bees this spring; three are doing splendidly, but the other one hangs around the entrance, and partly stand on their heads, fluttering their wings. What is the cause?

NEW YORK.

**ANSWERS.**—1. The thing that you can do most appropriately and effectively to put down adulteration, if you have not already done so, is to send a dollar to Dr. A. B. Mason, or to Geo. W. York, to make you a member of the New Union, which is especially designed to put down adulteration. Every dollar that goes in as a membership fee will help the chances for a systematic attack upon the whole adulteration business. If New York be the best point for first attack, no doubt that will be selected, but wherever the attack is made, it will pave the way to be followed up in other States.

2. Probably if you open up a larger entrance, or raise the hive on little blocks, the bees will get down off their heads and fold up their wings. The colony is probably strong, the entrance contracted, and the hive too warm, so a sufficient number of bees is detailed to stand at the entrance and fan with their wings so as to cool off the hive.

**A "Sweet Sixteen's" Dozen Questions.**

1. If a ripe queen-cell is inserted in a hive that has just cast a swarm, will the bees tear it down, or will the queen-cell hatch and the young queen tear down the remaining cells?

2. Are pure Italian drones any differently marked than hybrid drones?

3. Are drones reared from the daughter of a pure Italian queen that has mated with a hybrid drone as good as those reared from a purely-mated Italian queen?

4. How would it work to have queen-cells started in a queenless colony, and have them finish in the upper story of a colony containing a laying queen below, with a queen-excluding honey-board between, and not under the swarming impulse, as per Mr. Doolittle's plan?

5. Would a virgin queen be accepted in a colony that has just cast a swarm?

6. Is there any safe way to introduce a virgin queen to a full colony or nucleus? If so, how can I do it?

7. Are the bees of queens brought from the North to the South any more apt to be hardy than those brought from the South to the North?

8. Which will produce the best results, natural swarming or artificial?

9. Will the bees be just as gentle, as good workers, and as hardy if pure Italian leather-colored bees are crost with pure yellow 3-banded stock or 5-banded stock, as either race would be if alone?

10. Does it improve the stock to buy Italian queens from different breeders and mix them with pure Italians?

11. How can I determine as to whether a queen is bred from a purely-mated mother when she is mated with a hybrid drone?

12. Are drones bred from the daughter of a pure Italian queen that has mated with a hybrid drone, as pure as those reared from a purely-mated Italian queen?

F. C., Galt, Mich.

P. S.—This is my third year in the bee-business. I am 16 years old, and am intensely interested in bees.

**ANSWERS.**—1. Bees are somewhat freaky, and sometimes tear down cells of their own starting, while others are allowed to stand, but, as a rule, if you insert a queen-cell in a hive from which a swarm has just issued, it will be allowed to go on to maturity, providing it is older than any other in the hive. Whether the young queen which emerges from the cell of your inserting is allowed to kill all her rivals or be forced to issue with a swarm, depends upon circumstances, chiefly the strength of the colony. The main point in the question is that the bees will treat the cell you insert about in the same way as if it had been one of their own construction, but probably it will not be quite so sure of being undisturbed as if it had been present from the start.

2. They are likely to have more yellow on them, but the marking of drones is not as constant as that of workers.

3. The drone is practically of the same blood as his mother, no matter what the mating may have been.

4. Sometimes all right, and sometimes all wrong. The chances of success may be increased by making the separation from the brood-nest greater. Lay a cloth or a piece of tin over the excluder, merely allowing the bees to go up through the outside perforations, or else have three or four stories and have the cell in the upper story.

5. Generally. Perhaps always, if the "princess," as the English call her, is young enough. Indeed a young queen just out of the cell will be accepted in any colony, even if a laying queen be present, but she will likely be killed when she is a few days old if a laying queen is present.

6. Simply take one just out of the cell and place it right on the brood-comb among the bees. You may also succeed with one of any age, in the following manner: Make sure that there has been no unsealed brood in the hive for 48 hours; go to the hive just after bees have stopped flying in the evening, and quietly drop the queen on top of the frames, allowing her to crawl down.

7. The probability is that there is no difference noticeable.

8. That's a question for each one to settle for himself. On page 291 Prof. Cook says: "We used to hear a good deal about dividing bees, or artificial swarming, but in these latter days I think very few attempt any increase except by natural swarming." Apparently the good Professor thinks because little is said about it nowadays it is little practiced, a conclusion that is hardly warranted. We used to hear much about the advantage of movable-frame hives, and nowadays little is said about it, but it does not follow that "very few" use such hives. On the very next page C. Davenport, who produces honey on a large scale, says: "In producing comb honey, instead of allowing natural swarming I prefer dividing, or artificial swarming, and I can by this means obtain better results with less work," but he thinks the inexperienced may do better with natural swarming. Last year I made an increase of 121, and had only two or three natural swarms, one of which sailed away while I was trying to get it into the hive. Neither do I think Mr. Davenport and myself are alone in this matter. But some of our best bee-keepers prefer natural swarming.

9. I think likely, but I don't know.

10. Yes, providing you don't get inferior stock.

11. You can't do it all.

12. If this is the same as question 3, you have the answer there. If you mean drones from a queen whose mother was impurely mated, then the drones are not pure.

**A New Binder** for holding a year's numbers of the American Bee Journal, we propose to mail, postpaid, to every subscriber who sends us 20 cents. It is called "The Wood Binder," is patented, and is an entirely new and very simple arrangement. Full printed directions accompany each Binder. Every reader should get it, and preserve the copies of the Bee Journal as fast as they are received. They are invaluable for reference, and at the low price of the Binder you can afford to get it yearly.

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## United States Bee-Keepers' Union.

Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

**MEMBERSHIP FEE—\$1.00 PER ANNUM.**

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## Editorial Comments.

**Time of the Buffalo Meeting.**—A subscriber asks the following question:

MR. EDITOR:—When is the big convention to be at Buffalo, and what will the round trip from Chicago cost?

PATRICK.

It has practically been decided that the Buffalo convention will be held the last week in August. The exact dates are not yet arranged, but will be announced later.

The Grand Army rate from Chicago is one cent a mile each way at that time. The distance from Chicago to Buffalo is 600 miles. That would make the round trip cost \$12 from here. Cheap enough!

We hope soon to be able to give fuller information concerning the Buffalo meeting.

**The Old Union and Adulteration.**—In a private letter, Dr. Mason, Secretary of the New Union, wrote us as follows concerning Prof. Cook's suggestion that the Old Union take up the subject of honey-adulteration:

"I believe Prof. Cook is 'off his base' in urging that the National Bee-Keepers' Union take up the matter of adulteration; and that Mr. Newman is right in the stand he takes, that the funds of the Old Union were not contributed for that purpose, and as there is an organization in the field, the principal object of which is to look after that matter, it is not wise for the National Union to enter that field. To be sure, the constitution of the National Union gives the Advisory Board the power to use the funds for any purpose it sees fit, that will benefit bee-keepers, but it seems to me it would be a very unwise move to act in accordance with Prof. Cook's suggestion, for the Old Union itself has but recently voted *not to do* that very thing, and that was what brought the United States Bee-Keepers' Union into existence. So, under the circum-

stances, I believe Mr. Newman is right, and Prof. Cook is wrong; and as a member of the National Union, I am most decidedly opposed to the Advisory Board going contrary to the express wish of the Old Union, as shown by the two to one vote of last January.

"Had Prof. Cook been as anxious about the adulteration matter last fall, as he seems to be now, I fully believe that the New Constitution would have been adopted by the Old Union, and there would now be but one national organization."

We concur in all that Dr. Mason says. The majority of the Old Union's members, at the last election, practically voted to have that organization stick to its original object—that of defending bee-keepers in their right to keep bees. As one of the members of the Old Union we submitted gracefully to the will of the majority, tho we did, and do yet, object to the unfair means used by the General Manager to secure the majority of the votes against the New Constitution, which, if adopted by the Old Union, would have placed that organization right with the New Union in all its grand objects for the protection of all bee-keepers and all their interests.

**Score Another for the New Union.**—A honey-producer had in Pennsylvania shipped some honey to an Ohio commission firm, and could get no returns. When sending his membership fee to Secretary Mason, he inquired about the reliability of the firm. He was written concerning what had been done by Dr. Mason for another bee-keeper, and was asked to forward the firm's letters. He did so, and the Doctor wrote them as Secretary of the United States Bee-Keepers' Union, telling the objects of the New Union, and that their patron was a member of the Union; that it expects to stand by its members, especially where dishonest commission men were concerned. The result was that the firm "came down" handsomely, and the shipper will get his pay.

That's the kind of work we want done for bee-keepers who are likely to lose their honey. It will pay to become a member of the New Union. Better join at once, and be ready to call upon it when in trouble.

**An Early Chicago Swarm.**—There are quite a good many bees kept within the city limits of Chicago, and yet so well do they attend to their own affairs that scarcely any one knows of their existence here.

We had an early swarm this year—it issued Sunday, May 16. We had purchased a few colonies as a speculation, the day before, and kept them in the yard with our others for a few days, and while there one of them sent out the swarm. Of course they didn't know any better than to swarm on Sunday. Our own bees are "trained" to keep Sunday better than that! Why, we wouldn't have bees that would be so naughty as to swarm on Sunday!

But we hived that Sunday swarm, on Sunday, just the same! It was a very small one, perhaps a quart. It had settled on the side of a big hole in the ground in a vacant lot adjoining, and we simply set a hive with the entrance up against the swarm, and soon had them all on four empty combs.

But they didn't stay. The next day, about noon, Mrs. York telephoned us to come home (six miles away), for the bees were swarming! Sure enough, there was that same Sunday-fracturing swarm hanging on a small tree. This time in a Manum swarm catcher we carried them back to their hive, and dumped them on top of the frames. But to have no more of their leaving home we just gave them a nice frame of hatching brood, and that kept them all right, and they are doing well. Too many baby bees around then for them to desert again. Even Chicago bees have a little feeling left. They are not quite as bad as some of the politicians at Springfield.

May 16 is pretty early for swarming in this locality, but

Chicago bees are hustlers. They seem to catch something of the business spirit of the people who live here, the most of the folks seem to be in too big a hurry to collect the dollars, to live as they ought to.

A bee-keeper living a few miles south of Chicago had young drones flying May 7. Nothing slow or lazy about that.

**The Subject of Foul Brood** is quite an important one in many States—especially in Wisconsin—so much so that Mr. N. E. France, the Official Foul Brood Inspector for that State, requests us to republish for the benefit of the many bee-keepers there, some of the articles that appeared in the American Bee Journal in 1893 and 1894, by that expert foul-brood exterminator, Mr. Wm. McEvoy, of Canada. We shall be glad to comply with Mr. France's request, as it will also be very profitable for all the new readers that have been added to our list the past two or three years, and those that are now subscribing.

We begin this week with a republication of the new Foul Brood Law recently past by the Wisconsin Legislature, which is considered by Mr. McEvoy to be a model one for other States to follow in their efforts to secure the passage of a law on the subject of foul brood.

We now offer the Bee Journal the balance of the year to new subscribers for only 50 cents. This will give each one seven months' numbers, and will include all the foul brood articles that will be republished this month and next. It is a good time for our present readers to get their bee-keeping friends to subscribe.

Here is the law now in force in our neighboring State:

#### THE WISCONSIN FOUL BROOD LAW.

AN ACT for the suppression of foul brood among bees in Wisconsin.  
The people of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

#### APPOINTMENT.

SECTION 1.—Upon the recommendation of a majority vote of the members of the bee-keepers' societies of Wisconsin, the Governor shall appoint for a term of two years a State Inspector of apiaries, who shall, if required, produce a certificate from the Governor that he has been so appointed.

#### DUTIES.

SEC. 2.—The inspector shall, when notified, examine all reported apiaries, and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood exists in such apiaries; and if satisfied of the existence of foul brood, he shall give the owners or care-takers of the diseased apiaries full instructions how to treat said cases, as in the inspector's judgment seems best.

#### DESTRUCTION OF BEES.

SEC. 3.—The inspector, who shall be the sole judge, shall visit all diseased apiaries a second time, and, if need be, burn all colonies of bees and combs that he may find not cured of foul brood.

#### VIOLATIONS.

SEC. 4.—If the owner of a diseased apiary, honey, or appliances, shall sell, barter, or give away, any bees, honey, or appliances, or expose other bees to the danger of said disease, or refuse to allow said inspector to inspect such apiary, honey, or appliances, said owner shall, on conviction before a justice of the peace, be liable to a fine of not less than fifty dollars nor more than one hundred dollars, or not less than one month's imprisonment in the county jail, nor more than two months' imprisonment.

#### ANNUAL REPORT.

SEC. 5.—The inspector of apiaries shall make annual report to the Governor of Wisconsin, giving the number of apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and his expenses.

#### EXPENSES.

SEC. 6.—There is hereby appropriated out of any moneys in the State treasury, not otherwise appropriated, a sum not exceeding five hundred dollars per year, for the suppression of foul brood among bees in Wisconsin. Said inspector shall

receive four dollars per day, and traveling expenses, for actual time served, which moneys shall not exceed the moneys hereby appropriated, to be paid by the State treasurer, upon warrants drawn and approved by the Governor.

SEC. 7.—This Act shall take effect and be in force from and after its passage and publication.

Approved April 1, 1897.

## The Weekly Budget.

MR. W. C. LYMAN, of Dupage Co., Ill., writing us May 28, said: "Bees are doing well. First swarm May 10; another May 26. Good prospect for honey."

EDITOR HUTCHINSON AND WIFE (of the Bee-Keepers' Review), spent an afternoon recently with Dr. A. B. Mason and family at Toledo, Ohio. Of course it was an enjoyable visit all around.

MR. T. F. BINGHAM—the big bee-smoker man—writing us May 21, said:

"Bees are breeding up good, but the cool weather so far has cut off all the tree-bloom honey."

MR. JOHN CRAIG, of Macoupin Co., Ill., on May 27, sent us the first white clover blossoms we had seen this year. Shouldn't wonder if there'd be some white clover honey this year—something there hasn't been much of the past few years.

MR. A. E. SHERRINGTON, of Ontario, Canada, wrote May 17:

"This is a grand spring for the bees. Everything looks splendid."

MR. C. A. SUTHERLAND, one of our subscribers in Jamaica, W. I., reports that on April 22, while he was away in the interior looking after some business for a few days, on his return home he found his stores and honey-house entirely burnt out, with everything in connection with his apiary. This is a serious loss, indeed. We trust Mr. Sutherland may soon recover from it.

THE BUSY BEE, edited and published by Emerson Taylor Abbott, of Missouri, is on our desk. It is a continuation of The Nebraska Bee-Keeper, and will be issued monthly at 50 cents a year—"devoted to farm bee-keeping and other minor interests of progressive agriculture." Mrs. Emma Ingoldsby Abbott conducts the "Home Department." It is 6x9 inches in size, and contains 16 pages.

MR. A. M. RUNION, of Batson, S. C., writes us that about a month ago he had the misfortune to lose by fire his entire dwelling house and other smaller buildings, besides 28 colonies of bees out of 40, together with all fixtures and appliances. It was a total loss of some \$1,500, as no insurance was carried. He advises bee-keepers "to keep their bees at a safe distance from might-be fires." Our advice to all is: Keep at least a little insurance on all your burnable property.

HON. EUGENE SECOR hasn't had much chance yet to show how well he can fill the position of General Manager of the New Union, but one prominent bee-keeper, in an eastern State, referring to his letter to the Postmaster General, in last week's Bee Journal, wrote us: "It is straightforward and businesslike, and I must say I feel pleased with his work so far." Mr. Secor is ready to do a lot of "pleasing," if bee-keepers will create a proper fund to fall back upon.

MESSRS. R. H. SCHMIDT & CO., of Wisconsin, when promptly remitting on their advertising account, May 28, wrote:

"Keep our advertisement standing until we tell you to stop. The American Bee Journal is 'the stuff.' It makes our factory hum."

There are quite a number of bee-supply dealers and manufacturers whose advertisements ought to be found in every number of the Bee Journal. But perhaps they don't care to have their business "hum," as do the above firm. The Bee Journal is ready to help any and every honest business man, through its advertising columns.

# Sweet Sacred Songs

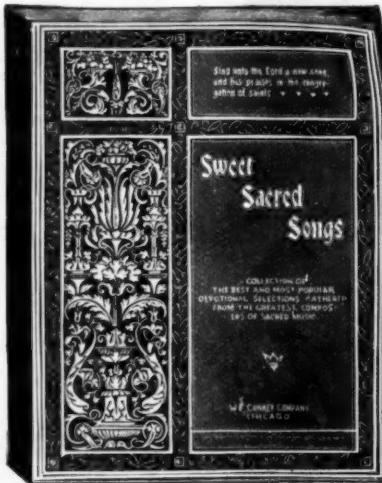
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At Benediction.....	Barri

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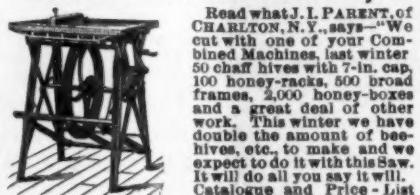
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A. F. Brown—I prefer full sheets.

E. France—Very nearly a full sheet.

Dr. J. P. H. Brown—I fill the sections  $\frac{4}{5}$  full.

Dr. C. C. Miller—I have always liked filling the sections as full as possible.

J. A. Green—Fill the sections full. A piece  $3\frac{1}{2}$  inches square is about right.

Prof. A. J. Cook—I like nearly full, reaching within half an inch of the bottom.

Rev. M. Mahin—Opinions differ. My personal preference is for narrow starters.

Mrs. L. Harrison—it depends upon the market; for the home market,  $\frac{1}{2}$  inch, or  $\frac{3}{4}$ .

C. H. Dibbern—As large as the inside of the sections, except a  $\frac{1}{4}$  inch space at the bottom.

H. D. Cutting—I have used all sizes and shapes, but prefer full sheets if the foundation is all right.

R. L. Taylor—I greatly prefer to fill the sections—*i. e.*, to fill as nearly as is safe, so the larger the starter, the better.

Jas. A. Stone—Before I would want to advise in this, I would want to know whether you wanted the honey for show or not.

G. M. Doolittle—from a V-shaped piece having  $1\frac{1}{4}$ -inch length sides, to sections filled to within  $\frac{1}{4}$  inch of the bottom, just as you can afford.

Dr. A. B. Mason—I would put a narrow strip of foundation at the bottom of the section, and then a full sheet reaching nearly to the strip at the bottom.

Emerson T. Abbott—if I were working for quantity, I would fill the sections with foundation; if for quality only, for home consumption, very small starters.

Eugene Secor—I like full sheets best. What I mean by that is, sheets lacking  $\frac{1}{4}$  inch of touching sides and bottom. I seldom see first-class looking honey produced from starters or no starters.

J. E. Pond—for myself, I use foundation to fill the sections completely. Others use starters of various widths. It is to some extent a matter of opinion. Try various widths from an inch to a full section, and determine the matter for yourself.

J. M. Hamaugh—Some of our best honey-producers use just enough to insure a straight "start off." I believe it will pay to nearly or quite fill the section, provided you can safely secure it; and use "extra thin," of about 12 square feet to the pound.

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**General Items.****Swarming and Working.**I have had two swarms to date. Bees are working fine. CHAS. BECKER.  
Sangamon Co., Ill., May 22.**Honey Prospect Fine.**Bees here have been swarming for three weeks, and the prospect for honey is fine. W. A. FINLAY.  
Pueblo Co., Colo., May 20.**Bees in Fine Condition.**

Bees are in fine condition. I have 30 colonies. The first swarm issued May 9, and I have had 5 since.

JAMES C. POLLOCK.  
Greene Co., Pa., May 24.**Plenty of White Clover.**This will be a good year for bees if the weather ever gets warm. My bees wintered well, losing only one colony out of 29. There is plenty of white clover this year. D. R. ROSEBROUGH.  
Clark Co., Ill., May 24.**Good Prospect for Fruit.**

Bees are doing fine. The blackberry is in full bloom. I have never seen a better prospect for fruit than there is here. Some of my bees swarmed May 22, but the queen would not come out of the hive, so they all went back. I have persuaded the farmers to sow sweet clover, and try feeding it to the hogs. White clover is in bloom here.

JOHN CRAIG.

Macoupin Co., Ill., May 22.

**Another Entrance Feeder.**

On page 289, a Mr. S. A. Deacon (probably meaning a South African Deacon) describes an entrance feeder that he uses, which seems to me to be rather fussy kind of a thing, but it may seem very simple to him. But let that be as it may, inasmuch as so many have given their plans of feeding, both inside and at the entrance of the hive, I wish to give a brief description of an entrance feeder that I have used for the last four years, which I think is a simple, easy and safe way of feeding.

Get a little tin dish, made say 8 inches long, 3½ wide, and 1½ inches deep; then take an empty cigar-box—take the lid and one side off—fill the dish as full as it can be handled without spilling, set it down on the bottom-board in front of the entrance, put a float on it for the bees to stand on, then put the cigar-box over the dish and press it in tight against the front of the hive. The bees can reach the dish only from the inside of the hive. It takes but a few seconds to fill the dish, set it down and cover it, and it doesn't disturb the bees in the least. This, of course, should be done in the evening, and it is well to go around the hives in the morning and lift the dishes and leave the entrance open. If the dishes are empty, set them upon the hive ready for the next feeding. But if not empty, take them to the bee-house and set them away until



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Warren Co., Ill., May 21.

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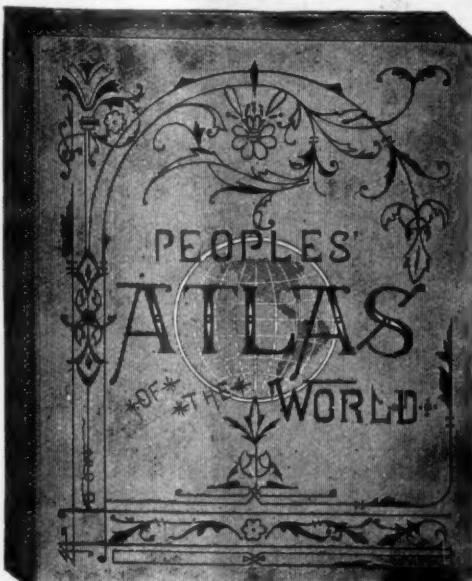
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## HONEY and BEESWAX MARKET QUOTATIONS.

**Chicago, Ill., May 6.**—There is very little honey coming to the market, and fine lots of white comb bring 13c. Yet only a little is taken by the dealers, the season for it being over with the coming of strawberries, which are now plentiful. Extracted brings about like quotations, with beeswax in active demand at 27@28c. for best grades.

**San Francisco, Calif., May 6.**—White comb, 9-10c.; amber, 5-7c. Extracted, white, 5½c.; light amber, 3½-4c.; dark tule, 2¾c. Beeswax, fair to choice, 25-27c.

**New York, N. Y., May 6.**—Old crop is well cleaned up, both comb and extracted, and our market is in good shape for new crop, which is now beginning to arrive from the South. It is in fairly good demand at 50@52c. per gallon for average common grade, and 55@60c. for better grades. Beeswax is rather quiet at 26@27c.

**Detroit, Mich., May 1.**—Fancy white, 12@12c.; No. 1, 11@11c.; fancy amber, 9@10c.; No. 1, 8@9c.; dark, 7@8c. Extracted, white, 5@6c.; amber, 4@5c.; dark, 4c. Beeswax, 25@26c. Demand is slow for honey, and plenty in commission house.

**Kansas City, Mo., May 20.**—Fancy white, 12@13c.; No. 1, 11@12c.; fancy amber, 10@11c.; No. 1, 9@10c.; fancy dark, 8@9c.; No. 1, 8c. Extracted, white, 5@5½c.; amber, 4@4½c.; dark, 3½@4c. Beeswax, 25c.

**Cincinnati, Ohio, May 7.**—Demand is slow for all kinds of honey. Comb honey, 9@14c. for fair to choice white; extracted, 3½@6c. There is a fair demand for beeswax at 22@25c. for good to choice yellow.

**Minneapolis, Minn., May 1.**—Fancy white, 11@12c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-7c. Extracted, white, 6@7c.; amber, 5@5½c.; dark, 4@5c. Utah white extracted, 5@5½c. Beeswax, 23@26c. Market fairly steady for comb and better for extracted than for some time.

**Philadelphia, Pa., May 1.**—Fancy white comb, 12-13c.; fancy amber, 8-9c.; No. 1, 8c.; fancy dark, 7-8c. Extracted, white, 5-7c.; amber, 4-5c.; dark, 3½-4c. Beeswax, 25c. Season is getting over for comb honey—very little demand. Extracted in good demand.

**St. Louis, Mo., May 1.**—Fancy comb, 12@13c.; No. 1 white, 11@11½c.; amber, 9@10½c.; dark, 7@8½c. Extracted, white, in cans, 6@7c.; amber, in barrels, 4@4½c.; extra, 5c.; dark, 3@4c. Good demand for barrel stock—comb slow sale. Beeswax, 23@23½c.—prime finds ready sale at 23½c.

**Albany, N. Y., May 1.**—Fancy white, 12-13c.; No. 1, 11-12c.; fancy amber, 9-10c.; No. 1, 8-9c.; fancy dark, 7-8c.; No. 1, 6-7c. Extracted, white, 5-6c.; dark, 3½-4c.

Demand is all that could be expected at this season. Stock on hand small.

**Indianapolis, Ind., May 1.**—Fancy white, 14-15c.; No. 1 white, 12-13c. Extracted, white, 6-7c. Beeswax, 22-25c.

Demand is fair for grades quoted, but no demand for inferior grades.

**Buffalo, N. Y., May 28.**—The honey season here is about wound up for the present. There are a few stray sales of fancy at 10 and 11 cents, while common is selling at any price, quotable at 9@10c. No extracted or processed here.

**Boston, Mass., May 1.**—Fancy white, 13-14c.; No. 1, 11-12c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c..

**Cleveland, Ohio, Feb. 20.**—Fancy white, 14½@15c.; No. 1 white, 12½@13c. Extracted, 6@7c.; amber, 4½@5c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

## List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

### Chicago, Ills.

R. A. BURNETT & CO., 163 South Water Street.

### New York, N. Y.

HILDRETH BROS. & SCHAFFNER,

### Kansas City, Mo.

O. C. CLEMOMS & CO., 423 Walnut St.

### Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

### Hamilton, Ills.

CHAS. DADANT & SON.

### Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

### Cleveland, Ohio.

WILLIAMS BROS., 80 & 82 Broadway.

### St. Louis, Mo.

WESTCOTT COM. CO., 213 Market St

### Minneapolis, Minn.

S. H. HALL & CO.

### Milwaukee, Wis.

A. V. BISHOP & CO.

### Boston, Mass.

E. E. BLAKE & CO., 57 Chatham Street.

### Detroit, Mich.

M. H. HUNT, Bell Branch, Wayne Co., Mich.

### Indianapolis, Ind.

WALTER S. PODER, 162 Massachusetts Ave

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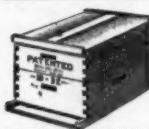
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